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EXAMINER	
WOODS, ERIC V	

ART UNIT	PAPER NUMBER
2672	

DATE MAILED: 10/04/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/691,836	LEICHTLING, IVAN	
	Examiner	Art Unit	
	Eric V. Woods	2672	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *12 July 2005*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-27* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-27* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *23 October 2003* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Response to Arguments

Applicant's arguments, see Remarks pages 1-16, filed 12 July 2005, with respect to the rejection(s) of claim(s) 1-27 under 35 U.S.C. 102(various) and 35 U.S.C. 103(a) under various combinations of references have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of various new references as below.

The objections to claims 10-11 and 13 are withdrawn in view of applicant's amendments.

The rejections of claims 22-23 are withdrawn in view of applicant's amendments.

The Office's assertion that Panasyuk does not teach 'synchronously' is withdrawn. Panasyuk in fact teaches such limitations (see for example 4:1-4:12), where it teaches that the local agents issue the Enum Windows command every time period, e.g. "The agents 30, 40 can issue the Enum Windows command every 50 milliseconds, every 100 milliseconds, every 500 milliseconds, or at any period that allows that allows the agent 30, 40 to rapidly determine when changes to its associated desktop environment have occurred without putting a significant computation burden on the node." The Enum Windows command clearly serves to determine changes in the details of the operating system under a Windows™ operating system environment.

Definitions

The applicant in the claims uses the term "synchronously". This term does not have a definition in the specification. Specifically, it is unknown if this term requires real-time synchronization, or if it is used in a broad manner to simply require that events on the server and the client be updated, usually as practical (e.g. in high-latency and/or high packet-loss scenarios)(where practicality is entirely determined by the reference and the situation, such as in Panasyuk (4:1-12), where information concerning movement of the window is transmitted when it 'would not cause a significant computation burden on the node'. As such, examiner will interpret the term as broadly as possible.

Claim Rejections - 35 USC § 101

35 U.S.C. 101 reads as follows:

> **Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.**

Claims 22-23 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. It recites a data structure per se, which is prima facie unpatentable, as it is nonfunctional descriptive material (see In re Warmerdam, where claim 6 to a data structure per se was found to be nonstatutory).

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

> **The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.**

Claims 1-27 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The term "synchronously" in claims 1-27 is a relative term, which renders the claim indefinite. The term "synchronously" is not defined by the claim, the specification does not provide a standard for ascertaining the requisite degree, and one of ordinary skill in the art would not be reasonably apprised of the scope of the invention. However, it is further submitted that the specification does not contain any definition of the term, and any attempt to clarify it will result in either the resultant amendment being denied entry and/or applicant being required to cancel the new matter. Therefore, either applicant must either accept the broadest reasonable interpretation of the term (as noted in definitions, which is the one used by the examiner) or cancel this limitation from the claims, unless applicant can make a good and sufficient showing (with appropriate legal precedent cited) a third course of action would be legally acceptable in prosecution before the Office. Finally, the claims are indefinite because applicant appears to be asserting that Panasyuk's polling in (4:1-12) is not 'synchronous'.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims 1, 7, 8, 9, 14, 19, 20, 21, 24, 25, and 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Panasyuk et al. in view of Spencer et al (US 6,877,027 B1)('Spencer').

Panasyuk discloses the invention claimed in claims 1, 7, 20, 24, 25, and 26. Panasyuk describes a system and method in which a window being shown on a server display is sent and displayed on a client display. Region data describing the window region on a server desktop is gathered and sent along with graphics data for the region to a client display. Column 2, lines 31 – 42, states, "In a further aspect, the present invention relates to a system for incorporating windows from a remote desktop into a local desktop. The system comprises a local node and a remote node connected by a communications link. The communications link includes a first virtual channel and a second virtual channel. The nodes exchange desktop information such as window position, window size, and Bordering of desktop windows, over the first virtual channel. The nodes exchange graphical information over the second virtual channel. In some embodiments, the first virtual channel and the second channel may be provided as a single virtual channel." Column 6, lines 58 – 67, states, "During a seamless windowing

mode session, the server agent 30 will send window information such as window position, size, styles, window text, etc. for all top-level windows on the server node. Also, foreground window information is sent, i.e., which window on the server node desktop is the foreground window. In accordance with this information, the client agent 40 creates windows with the same size/position as the server node windows on the client node desktop. In some embodiments, window elements are transmitted as bitmaps from the server node 20." Thus, the region and graphics data are gathered to describe the shared window and then sent to a client. Column 10 describes computing device readable media containing programs to perform the invention.

Panasyuk implicitly teaches the synchronous limitation as noted above. Panasyuk in fact teaches such limitations (see for example 4:1-4:12), where it teaches that the local agents issue the Enum Windows command every time period, e.g. "The agents 30, 40 can issue the Enum Windows command every 50 milliseconds, every 100 milliseconds, every 500 milliseconds, or at any period that allows that allows the agent 30, 40 to rapidly determine when changes to its associated desktop environment have occurred without putting a significant computation burden on the node." This suggests real-time updates and/or synchronization, since the minimum refresh rate required for human beings to perceive motion and the like is 30Hz, e.g. requiring a refresh rate of 33 milliseconds versus the 50 milliseconds offered as an example by Panasyuk, thus essentially enabling real-time updates.

The Enum Windows command clearly serves to determine changes in the details of the operating system under a Windows™ operating system environment. Clearly, a

window defined in the specification and as well known in the art constitutes a 'region of a server desktop', and applicant has not contested this point.

As noted above, the Office withdraws its concession concerning the above point, and in no way agrees with applicant's conclusion that Panasyuk does not teach synchronization.

However, to expedite prosecution, reference Spencer is utilized. Spencer clearly teaches synchronization verification of multiple applications across remote systems, where at least one local application window is synchronized with the at least one remote application window (Abstract, 2:45-3:7, Figs. 7C and 7G). Specifically, the system provides automated real-time feedback as to the synchronization of all windows and thusly allows synchronization between them (4:59-5:27).

Clearly, it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the system of Panasyuk with Spencer because Spencer provides methods for synchronizing applications and ensuring that such synchronization is maintained in real time in a low bandwidth and transparent manner (4:59-5:27), where clearly it provides improvement over prior art window sharing (7:44-50).

Claim 8 is disclosed by the invention of Panasyuk such that the region data is sequenced to precede the graphics data using rules of a remoting protocol. Column 3, lines 1 – 4, states, "Client nodes may communicate with server node 20 via any of a number of industry-standard data communications protocols including, but not limited to, TCP/IP, IPX/SPX, NetBEUI, or serial protocols." Thus, the rules of a remoting protocol

are used while the synchronized region data precedes the graphics data are sent from the server to the client.

Claims 9, 14, 19, and 21 are disclosed by the invention of Panasyuk. Column 6 describes the sending of window information from the server to the client. Lines 63 – 66 state, "In accordance with this information, the client agent 40 creates windows with the same size/position as the server node windows on the client node desktop." Thus, the client receives the region and graphics data from the server and displays the graphics data in accordance with the region data.

Claims 10 – 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Panasyuk in view of Spencer as applied to claims 1 above, and further in view of Fyles.

Panasyuk and Spencer et al. disclose the invention in claims 10 – 13 except wherein various methods are used to reduce the amount of information sent from the server to the client display during conditions of low bandwidth. Spencer teaches that his invention uses little bandwidth, as noted above (4:59-5:27), but otherwise does not address the problem. The invention of Fyles discloses a system for efficient workstation screen updates that involves sending display information from a local computer to a remote computer. Fyles teaches of various ways of coping with low bandwidth situations while transmitting data from one computer to another. Column 1, lines 36 – 42, states, "A major problem in achieving this simultaneity between workstations is that the connections between the computers have a limited bandwidth. This is particularly so if telephone-based ISDN lines or similar are used. One way of coping with this is to use data compression, to reduce the amount of data that must be transmitted." Column

2, lines 17 – 27, states, "In a preferred embodiment each identified portion of the screen is represented by a rectangle, and it is then the contents of this rectangle that is transmitted to the other computers in the network. The use of a rectangle is computationally very simple, and turns out to correspond to a large majority of updates. In a few cases the update has a more complicated shape, so that possibly a large proportion of the rectangle transmitted has not been updated. This could be avoided by using other shapes, perhaps based on more sophisticated calculations to determine very accurately the updated area of the screen for transmission." Thus, the system of Fyles solves the restrictions caused by low bandwidth situations by altering the shape of the area to be sent for updating to the remote computer to reduce the amount of data that is to be transmitted. It would have been obvious to one skilled in the art at the invention was made to further modify the invention of Panasyuk in view of Spencer to include altering the area to be sent to the client computer so that less data needs to be transmitted as taught by Fyles et al. One would have been motivated to make such a modification so that in cases where the bandwidth is too low to send the graphics and region data, the region data and graphics data may be altered in order to reduce the amount of bandwidth required by the transmission. It is also inherent in the invention of Panasyuk as modified by Spencer that a local computer may only transmit as much data to a remote system as allowed by the available bandwidth between the two. During situations of low bandwidth, only a reduced amount of data can be transferred.

Claims 2 – 6, 15, and 27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Panasyuk Spencer as applied to claims 1 and 25 above, and further in view of Schneider.

Panasyuk and Spencer et al. disclose the invention in claims 2, 5, and 27 except wherein the region and graphics data are synchronously gathered in a single driver. The system of Schneider controls the viewing of a display from a local computer on a target device by transmitting GDI calls. Figure 3a shows an implementation of the invention in which screen data is sampled and captured for transmission. Column 6, lines 65 – 67, and Column 7, lines 1 – 7, state, "Instead, the digitizer control application 220 periodically requests (through the device driver 210) that a whole screen of data be sampled. The digitizer control application 220 then draws the whole captured screen to its local screen using Windows GDI calls. The remote control software application 200 captures those GDI requests and retransmits them to the controlling computer 12. The client software on the controlling computer 12 then re-executes the commands so that the screen of the controller 50 and the screen of the controlling computer 12 show the same image." Thus, the device driver and control application of Schneider et al. collect the screen data, which includes region and graphics data to be stored in the data structure of Spencer for synchronous transmission. It would have been obvious to one skilled in the art at the invention was made to further modify the invention of Panasyuk in view of Spencer so that the region and graphics data are synchronously gathered by the display driver. One would have been motivated to make such a modification to Panasyuk and Spencer so that the server and client computers both share the same

image as a result of transmitting the captured GDI requests from the device driver as taught by Schneider et al.

Panasyuk discloses claim 3 in that the server and client node communicate via one of a list of industry-standard protocols. Column 3, lines 1 – 9, states, "Client nodes may communicate with server node 20 via any of a number of industry-standard data communications protocols including, but not limited to, TCP/IP, IPX/SPX, NetBEUI, or serial protocols. Alternatively, client nodes 10 may connect to server node 20 using a proprietary data communications protocol such as the ICA protocol manufactured by Citrix Systems, Inc. of Fort Lauderdale, Fla. or the RDP protocol manufactured by Microsoft Corporation of Redmond, Wash." Therefore, the region and graphics data to be sent from the server to the client is gathered and stored in a format of a remoting protocol.

Panasyuk and Spencer disclose the method of claim 6 except wherein the display driver synchronously gathers graphics data by gathering drawing commands issued to a graphics device interface subsystem of an operating system of the server. Schneider teaches of gathering GDI drawing commands for transmission to a client from a server. Column 3, lines 29 – 32, states, "In general, the system of the present invention transmits a GDI representation of digitized video signals as well as mouse and keyboard signals over a communications link." Column 6, line 67, and column 7, lines 1 – 7, state, "The digitizer control application 220 then draws the whole captured screen to its local screen using Windows GDI calls. The remote control software application 200 captures those GDI requests and retransmits them to the controlling computer 12.

The client software on the controlling computer 12 then re-executes the commands so that the screen of the controller 50 and the screen of the controlling computer 12 show the same image." Thus, the graphics data is gathered by collecting drawing commands issued to a graphics device interface subsystem. It would have been obvious to one having ordinary skill in the art at the time the invention was made to further modify the method of Panasyuk in view of Panasyuk and Spencer to include the method of Schneider such that the graphics data is gathered by collecting drawing commands issued to a graphics device interface subsystem. One would have been motivated to make such a modification to the invention of Panasyuk in view of Spencer so that upon sending the graphics data to a client computer, only the drawing commands are sent to the client instead of sending bitmap images. This reduces the amount of information to be communicated and thus reduces the amount of bandwidth needed to transmit screen data from the server to a client.

Panasyuk and Spencer as applied to claim 1 disclose the system of claim 15 except wherein a display driver collects the synchronously gathered region and graphics data region and a region and graphics gathering module gathers region and graphics data. The system of Schneider controls the viewing of a display from a local computer on a target device by transmitting GDI calls. Figure 3a shows an implementation of the invention in which screen data is sampled and captured for transmission. Column 6, lines 65 – 67, and Column 7, lines 1 – 7, state, "Instead, the digitizer control application 220 periodically requests (through the device driver 210) that a whole screen of data be sampled. The digitizer control application 220 then draws the whole captured screen to

its local screen using Windows GDI calls. The remote control software application 200 captures those GDI requests and retransmits them to the controlling computer 12. The client software on the controlling computer 12 then re-executes the commands so that the screen of the controller 50 and the screen of the controlling computer 12 show the same image." Thus, the device driver and control application collect the region data and graphics data. The gathering module to synchronously gather region and graphics data is performed by the remote control software application as it captures the GDI requests. It would have been obvious to one having ordinary skill in the art at the time the invention was made to further modify the invention of Panasyuk to include a device driver and control application collect the region data and graphics data and a remote control software application to capture GDI requests so as to synchronously gather region and graphics data for a display. One would have been motivated to make such a modification so that graphics data being sent from a server to a client is in the form of GDI drawing commands instead of bitmap images. Additionally, gathering region and graphics data in the same control software application module allows for synchronicity to be achieved between the data since they are both gathered from the same captured screen in the application.

Claims 16, 17, and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Panasyuk in view of Spencer and Schneider as applied to claim 15 above, and further in view of Eagen.

Panasyuk in view of Spencer and Schneider disclose the engine in claims 16 and 18 except wherein a data output scheduler is associated with the display driver to send

the region and graphics data to a client in a sequence and comprising a data gathering scheduler to schedule synchronous gathering a region and graphics data. Panasyuk teaches of issuing commands periodically at a predetermined rate to determine when changes to the server's desktop have occurred. Column 4, lines 3 – 8, states, "The agents 30, 40 can issue the Enum Windows command every 50 milliseconds, every 100 milliseconds, every 500 milliseconds, or at any period that allows the agent 30, 40 to rapidly determine when changes to its associated desktop environment have occurred without putting a significant computational burden on the node." The apparatus of Eagen includes presenting and removing of windows from a host terminal to a workstation. Column 8 discloses a display data manager that constructs a data stream according to a given format when information is to be displayed at a remote terminal. Lines 25 – 32 state, "When an applications program needs to communicate with a remote terminal it calls up an applications program interface routine, one form of which is identified as a "display data manager." When information is to be displayed at a remote terminal, the display data manager constructs a data stream according to a particular format, and transmits this data stream to a workstation controller." Thus, the display data manager performs the tasks of output scheduler and gathering scheduler by constructing a data stream according to a particular format to transmit data to a workstation controller. It would have been obvious to one having ordinary skill in the art at the time the invention was made to further modify the invention of Panasyuk in view of Spencer and Schneider to include a display data manager to perform the tasks of an output scheduler and a data gathering scheduler as taught by Eagen. One would have

been motivated to make such a modification so that the gathering and sending of the graphics and region data is performed periodically at a predetermined rate to coincide with the periodic updates of the server's desktop environment in Panasyuk.

Panasyuk in view of Spencer and Schneider disclose the engine in claim 17 except wherein a bandwidth compensator maintains security with respect to the synchronized region and graphics data during a condition of low bandwidth. Eagen discloses a communications device for transmitting data to a target device. Column 4, lines 65 – 67, and column 5, line 1, state, "The controlling computer 12 also includes a communications device 53 for communicating with the target device(s). Such a device 53 may include (1) a modem for connecting via a telephone connection, (2) a wireless transceiver for wirelessly communicating, and (3) a wired adapter (e.g., an Ethernet or token ring adapter)." Column 3, lines 56 – 67, describes the contents of the controlling computer that contains the communications device as containing a CPU. It is obvious to one having ordinary skill in the art that a CPU and communications device can be combined to create a bandwidth compensator such that the system is aware of conditions of low bandwidth. It would have been obvious to one having ordinary skill in the art at the time the invention was made to further modify the invention of Panasyuk in view of Spencer and Schneider to include a bandwidth compensator. One would have been motivated to make such a modification so that in conditions of low bandwidth, the security with respect to the synchronized region and graphics data is maintained and no unintended regions of the graphics data will be displayed on the target computer.

Claims 4 and 22-24 are rejected under 35 U.S.C. 103(a) as unpatentable over Panasyuk in view of Spencer as applied to claim 1, and further in view of Grossman.

As to claim 4,

Panasyuk discloses the method of claim 4 except wherein the region data is synchronously gathered by a display driver-level window object created to contain the shape and position information. Grossman teaches of using a display driver-level window object to gather and contain the shape and position information of a shared object in figure 4. It would have been obvious to one having ordinary skill in the art at the time the invention was made to further modify the invention of Panasyuk so that the region data is synchronously gathered by a display driver-level window object to contain the shape and position information. One would have been motivated to make such a modification to the invention of Panasyuk so that there existed a record containing all the region data of the shared window between the server and client, thus facilitating the synchronicity between the region data and the graphics data upon sending the shared window to a client by sending the region data in advance of the graphics data in the data structure.

As to claim 24,

Panasyuk describes a system and method in which a window being shown on a server display is sent and displayed on a client display. Region data describing the window region on a server desktop is gathered and sent along with graphics data for the region to a client display. Column 2, lines 31 – 42, states, "In a further aspect, the present invention relates to a system for incorporating windows from a remote desktop into a

local desktop. The system comprises a local node and a remote node connected by a communications link. The communications link includes a first virtual channel and a second virtual channel. The nodes exchange desktop information such as window position, window size, and Bordering of desktop windows, over the first virtual channel. The nodes exchange graphical information over the second virtual channel. In some embodiments, the first virtual channel and the second channel may be provided as a single virtual channel." Column 6, lines 58 – 67, states, "During a seamless windowing mode session, the server agent 30 will send window information such as window position, size, styles, window text, etc. for all top-level windows on the server node. Also, foreground window information is sent, i.e., which window on the server node desktop is the foreground window. In accordance with this information, the client agent 40 creates windows with the same size/position as the server node windows on the client node desktop. In some embodiments, window elements are transmitted as bitmaps from the server node 20." Thus, the region and graphics data are gathered to describe the shared window and then sent to a client. Column 10 describes computing device readable media containing programs to perform the invention. Panasyuk does not disclose synchronously gathering the region and graphics data and sending the data to a client while maintaining synchronicity between the region and graphics data. The invention of Grossman describes the movement of windows or icons in a transport region from one monitor to another. Figure 4 shows a data structure that defines the transport region and the destination of the transported icon or window. As shown in the data structure, the coordinate values of the transport region and the coordinate values

for the target position are synchronously sent with the graphics data as represented by the icon identification number and class identification number. Column 4, lines 66 – 67, states, "Also, each graphical image within a class is uniquely identified by its icon identification number 440." Column 6, lines 6 – 10, states, "The "icon" to be transported need not be static but may consist of animated images or TV broadcasts/signals displayed in a window or icon. The target monitors may be local (e.g., on the same desktop) or in a remote location connected via a network." The icon identification number represents graphical data in that it identifies the graphical image being sent. Thus, the region data is synchronously gathered with the graphics data and the two are sent to a client from the server while maintaining the synchronicity between the two. It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the invention of Panasyuk to include synchronously gathering and sending the region and graphics data for displaying a region of a server desktop remotely on a client display as taught by Grossman et al. One would have been motivated to make such a modification to the invention of Panasyuk with Grossman et al. so that while sharing a window between the server and client displays, the graphics being shared will always correspond to the intended region and will not display graphics data not intended to be sent to the client.

Claim 24 is disclosed by the invention of Panasyuk and Spencer in view of Grossman as above. The condition wherein the bandwidth is sufficient for sending the region and graphics data to the client was chosen from the claim, therefore placing no restrictions on the methods described by Panasyuk and Grossman. Panasyuk as

modified by Grossman sends the region in synchronicity with the graphics data to the client with the region data preceding the graphics data.

Panasyuk implicitly teaches the synchronous limitation as noted above. Panasyuk in fact teaches such limitations (see for example 4:1-4:12), where it teaches that the local agents issue the Enum Windows command every time period, e.g. "The agents 30, 40 can issue the Enum Windows command every 50 milliseconds, every 100 milliseconds, every 500 milliseconds, or at any period that allows that allows the agent 30, 40 to rapidly determine when changes to its associated desktop environment have occurred without putting a significant computation burden on the node." The Enum Windows command clearly serves to determine changes in the details of the operating system under a Windows™ operating system environment. Clearly, a window defined in the specification and as well known in the art constitutes a 'region of a server desktop', and applicant has not contested this point.

As noted above, the Office withdraws its concession concerning the above point, and in no way agrees with applicant's conclusion that Panasyuk does not teach synchronization.

However, to expedite prosecution, reference Spencer is utilized. Spencer clearly teaches synchronization verification of multiple applications across remote systems, where at least one local application window is synchronized with the at least one remote application window (Abstract, 2:45-3:7, Figs. 7C and 7G). Specifically, the system provides automated real-time feedback as to the synchronization of all windows and thusly allows synchronization between them (4:59-5:27).

Clearly, it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the system of Panasyuk with Spencer because Spencer provides methods for synchronizing applications and ensuring that such synchronization is maintained in real time in a low bandwidth and transparent manner (4:59-5:27), where clearly it provides improvement over prior art window sharing (7:44-50).

As to claims 22 and 23,

The invention of Grossman describes the movement of windows or icons in a transport region from one monitor to another. Figure 4 shows a data structure that defines the transport region and the destination of the transported icon or window. As shown in the data structure, the coordinate values of the transport region and the coordinate values for the target position are synchronously sent with the graphics data as represented by the icon identification number and class identification number. Column 4, lines 66 – 67, states, "Also, each graphical image within a class is uniquely identified by its icon identification number 440." Column 6, lines 6 – 10, states, "The "icon" to be transported need not be static but may consist of animated images or TV broadcasts/signals displayed in a window or icon. The target monitors may be local (e.g., on the same desktop) or in a remote location connected via a network." The icon identification number represents graphical data in that it identifies the graphical image being sent. Thus, the region data is synchronously gathered with the graphics data in that the two are obtained for transmission once they are moved into a designated region

on the display. Therefore, the region data precedes the graphics data in the data stream structure.

Panasyuk and Spencer disclose claim 22 as the data is streamed between computers (a client and a server, a remote terminal and a local terminal). Obviously, as noted in the rejection to claim 1, which is incorporated by reference, the system of Panasyuk transmits window position, size, and graphics data in the window, which clearly constitute 'geometry of a visual region to be remotely displayed' as defined in applicant's specification and in claim 1. Clearly, as noted therein, the system of Panasyuk sends graphic data at regular intervals, as set forth with the Enum Windows command, where the region data would occur in every regular time interval with the update. Motivation and combination are taken from the rejection of claim 24 above.

As to claim 23, Spencer clearly states that synchronicity is maintained, as does Grossman, and this limitation is covered in the material incorporated by reference.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. See IDS.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Eric V. Woods whose telephone number is 571-272-7775. The examiner can normally be reached on M-F 7:30-4:30 alternate Fridays off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Razavi can be reached on 571-272-7664. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Eric Woods

JEFFERY BRIER
PRIMARY EXAMINER

September 20, 2005